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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,278	04/12/2001	Andrea Karen Smith	174PUS06107	2034

23543 7590 12/27/2002

AIR PRODUCTS AND CHEMICALS, INC.  
PATENT DEPARTMENT  
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ALLENTOWN, PA 181951501

EXAMINER

OH, TAYLOR V

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 12/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/833,278

Applicant(s)

SMITH ET AL.

Examiner

Taylor Victor Oh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2-10 and 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 11, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 AND 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

Applicant's election without traverse of Group III, namely Claims 1, 11, 19 and 20 in Paper No. 5 is acknowledged.

Claims 2-10 and 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected Groups I and II, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

***Specification***

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

The disclosure is objected to because of the following informalities: on page 14, a small print " ML0201.APP" is written.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

Claims 19 and 20 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an oriented polypropylene film and zinc cold rolled steel (Zn CRS) as a substrate, does not reasonably provide enablement for all the substrates in the field of chemistry. The specification does not enable any person

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skilled in the art to which it pertains, or with which it is most nearly connected, to include all the substrate unrelated to the invention commensurate in scope with these claims.

Therefore, an appropriate correction is required.

Furthermore, there are “foreman factors or Wands factors” regarding the presence or absence of working examples because the preparation of the structural adhesives has only two examples using an oriented polypropylene film and zinc cold rolled steel (Zn CRS) as a substrate shown in the specification (see examples 5 and 6). The reaction conditions for producing the structural adhesives, such as reaction temperature, are not applicable to all the structural adhesives. Thus, the specification has failed to provide sufficient working examples to support the method for joining or sealing any two substrates using an adhesive composition. In addition, more than routine experimentation is required and involved (second foreman factor).

See In re Armbruster 185 USPQ 204 (CCPA 1985) and Angstadt et al, 190 USPQ 152, (CCPA 1990).

Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A term “substrates” are used in the claims.

However, they are not described as to what those substrates would be in details.

Therefore, an appropriate correction is required.

***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 11, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (EP 0827995).

Lee et al teaches a method for joining or sealing two substrates using an adhesive composition (col. 2 , lines 31-35) in which a polyisocyanate prepolymer is obtained from the reaction between a polyisocyanate with a functionality of at least 2 and a polyol a functionality of at least 2; furthermore, the reaction product contains at least 90 wt% perfect prepolymer and less than 2 wt % unreacted isocyanate monomer and the prepolymer with a free NCO functionality ranging from 0.2 to 8 wt % (col. 3 , lines 41-55).

Moreover, the prepolymer reaction products are prepared using polyisocyanates such as 4,4'-diphenylmethane diisocyanate (MDI), whereas polyetherpolyols such as polyalkylene ether glycols may be used in the preparation of polyurethane prepolymers (see col. 4 ,lines 10-32); in addition, the polyol composition used for the process of making the prepolymer has an average molecular weight from 4200 to 25,000 (see col .4 lines 43-46).

However, the instant invention differs from the reference in that the claimed average equivalent weight is from 100 to 8000.

Concerning the average molecular weight, the reference teaches that the polyol composition has an average molecular weight from 4200 to 25,000. The claimed range overlaps with the range disclosed by the prior art. Therefore, it would have been obvious to the skilled artisan in the art to have optimized the average molecular weight by routine experimentations in order to obtain the desired product in the absence of an unexpected result.

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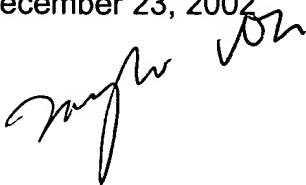
Lee et al does teach a general method for joining or sealing two substrates using the adhesive composition in which the reaction product of 4,4'-diphenylmethane diisocyanate (MDI) and polyalkylene ether glycols with the average molecular weight from 4200 to 25,000 can be formed. Furthermore, the claimed range does overlap with the range disclosed by the prior art. Therefore, it would have been obvious to the skilled artisan in the art to have motivated to change the average molecular weight by routine experimentations in order to obtain the desired product in the absence of an unexpected result.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 703-305-0809. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on 703-308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-2742 for regular communications and 703-305-7401 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

December 23, 2002



  
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